

ABSTRACT

The present invention provides a novel glucose and/or fructose transporter involved in renal diabetes, its gene, their variant, and their use. The glucose and/or fructose transporter of the present invention and its gene are a glucose and/or fructose transporter involved in renal diabetes and its gene, the protein and the gene are highly expressed in the kidney, and comprise a novel protein that make a larger contribution to the renal glucose reabsorption and its gene. The present invention comprises a variant of the protein and the gene, and an antibody that specifically binds to the protein. Further, the present invention comprises a non-human animal model wherein the gene of the present invention is deficient in its chromosome, a method for screening a preventive/therapeutic drug for renal diabetes, a method for diagnosing glucose and/or fructose transporter function and renal diseases using the gene or the antibody, and a method for regulating a transporter function in a tissue cell by introducing the gene of the present invention into the tissue cell.